

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No : 10/005,052
Applicant : Monsalve-Gonzalez et al.
Filed : December 4, 2001
**Title : Bran and Bran Containing Products of
Improved Flavor and Methods of Preparation**

TC/A.U. : 1794
Examiner : Tran Lien, Thuy

Docket No. : 5553

APPLICANT'S APPEAL BRIEF

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

The Applicants of the above-identified U.S. patent application submit this Appeal Brief in support of an appeal from the November 24, 2008 final rejection of claims 1-3 and 5-48 in this application. The fees required under 37 C.F.R. § 1.117(f) were previously paid during the filing of the September 19, 2005 and February 14, 2008 Appeal Briefs. Any difference between the fees already paid and the fees due accompanies this brief.

TABLE OF CONTENTS

- I. REAL PARTY IN INTEREST
- II. RELATED APPEALS AND INTERFERENCES
- III. STATUS OF CLAIMS
- IV. STATUS OF AMENDMENTS
- V. SUMMARY OF CLAIMED SUBJECT MATTER
- VI. GROUNDS OF REJECTION TO BE REVIEWED IN APPEAL
 - A. Whether claims 1-3, 5-9 and 16-48 are properly rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,844,924 in view of U.S. Patent No. 4,372,812 to Phillips et al.
 - B. Whether claims 1-3, 5-21, 23-26, 33-39, 41 and 48 are properly rejected under 35 U.S.C. § 102(e) as being anticipated by International Publication No. WO 02/21936 to Gonzalez et al.
- VII. STATEMENT OF FACTS
- VIII. ARGUMENTS
 - A. Whether claims 1-3, 5-9 and 16-48 are properly rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,844,924 to Stanley in view of U.S. Patent No. 4,372,812 to Phillips et al.
 - 1) Claims 1-2, 6-9, 16-18, 20-22, 24-32 and 47
 - 2) Claim 3

- 3) Claim 5
- 4) Claims 19 and 23
- 5) Claims 33-36, 39, 40 and 45
- 6) Claims 37 and 38
- 7) Claims 41-44, 46 and 48

B. Whether claims 1-3, 5-21, 23-26, 33-34, 35-39, 41 and 48 are properly rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,899,907 to Gonzalez et al.

- 1) Claims 1-2, 6-9, 16-21 and 23-26
 - a. The improper rejection of the § 1.132 Affidavit filed October 30, 2008.
 - b. The Examiner's failure to address each and every limitation in the claims.
- 2) Claim 3
- 3) Claim 5
- 4) Claims 10-15
 - a. The improper rejection of the § 1.132 Affidavit filed October 30, 2008.
 - b. The Examiner's failure to address each and every limitation in the claims.
- 5) Claims 33-36 and 39
- 6) Claims 37 and 38
- 7) Claims 41 and 48

C. Conclusions

IX. CLAIMS APPENDIX

X. EVIDENCE APPENDIX

A. July 5, 2007 Affidavit Submitted Under 37 C.F.R. § 1.132

B. October 30, 2008 Affidavit Submitted Under 37 C.F.R. § 1.132

XI. RELATED PROCEEDINGS APPENDIX

I. REAL PARTY IN INTEREST

The above-identified patent application is subject to an obligation of assignment to General Mills, Inc.

II. RELATED APPEALS AND INTERFERENCES

There does not exist any known related appeals or interferences that would directly affect or be directly affected by or have a bearing on the decision in this case.

III. STATUS OF CLAIMS

Claim 4 has been canceled and claims 1-3 and 5-48 stand finally rejected. The rejected claims are herewith appealed.

IV. STATUS OF AMENDMENTS

No amendments to the claims have been made following the final Office Action of November 24, 2008 (hereafter "the Office Action").

V. SUMMARY OF CLAIMED SUBJECT MATTER

The present invention is directed to bran and bran containing products of improved flavor and methods of preparation. More specifically, a mild oxidation process is employed to chemically alter bran such that the bran has a reduced ferulic acid concentration and an elevated vanillin concentration. See the summary on page 3 of the application. More specifically, the present invention, as defined by claim 1, is a method for treating a grain based product bran including reacting bran with 0.1 to 1 parts ozone per 100 parts bran to produce treated bran having a reduced ferulic acid finished concentration of less than 30 ppm, and wherein the bran has an elevated finished

concentration of vanillin. See page 13, lines 5-7; page 14, lines 8-10; and page 15, lines 4-6.

Claim 3 further defines the invention by providing that the finished ferulic concentration of the bran is less than 50% of the native concentration of the bran. See page 13, lines 5-9.

Similarly, claim 5 further defines the invention by providing that the finished concentration of vanillin is at least twice the native concentration of vanillin. See page 14, lines 8-12.

The present invention is further defined by the method of claim 10, wherein bran is treated with a chelating agent, the pH of the bran is reduced with acid to about 4-6, the bran is reacted with ozone to produce treated bran having a reduced ferulic acid finished concentration, and the treated bran is blanched to produce a blanched bran having an elevated concentration of vanillin. See page 9, line 14 through page 10, line 21; page 11, line 9 through page 12, line 5; and page 12, lines 19-22.

Claim 19 further limits claim 10 and requires that 100 parts acidified bran is contacted with about 0.3 to 0.7 parts ozone.

Products of the present invention are set forth in claims 33-36, 39, 40 and 45. More specifically, products are produced having a reduced ferulic acid concentration of less than 30 ppm and elevated vanillin content. See page 13, lines 5-9 and pages 16-19.

Products of the present invention are also set forth in claims 37 and 38. Such products have a reduced ferulic acid concentration and an elevated concentration of vanillin. See pages 16-19.

Additional grain products of the present invention are set forth in independent claim 41 and dependent claims 42-44, 46 and 48. These claims are directed to products

having a ferulic acid concentration of less than 30 ppm and an elevated concentration of vanillin. See page 13, lines 5-9, page 14, lines 9-10 and page 16 through page 20, line 1.

VI. GROUND OF REJECTION TO BE REVIEWED ON APPEAL

A. Whether claims 1-3, 5-9 and 16-48 are properly rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,844,924 to Stanley in view of U.S. Patent No. 4,372,812 to Phillips et al.

B. Whether claims 1-3, 5-21, 23-26, 33-39, 41 and 48 are properly rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,899,907 to Gonzalez et al.

VII. STATEMENT OF FACTS

1) On July 5, 2007 the Applicants filed an affidavit under 37 C.F.R. § 1.132 to overcome the February 5, 2007 §102(e) rejection of claims 1-3, 5-21, 23-26, 33-34, 35-39, 41 and 48 based on International Publication No. WO 02/21936 to Monsalve-Gonzalez et al.

2) In the Final Rejection dated September 19, 2007, the Examiner stated that the July 5, 2007 affidavit was not sufficient to overcome the February 5, 2007 rejection. See page 6 of the September 18, 2007 Office Action.

3) On February 14, 2008, the Applicants filed a second Appeal Brief in this application, arguing that the affidavit was sufficient to overcome the February 5, 2007 rejection. See pages 14 and 17 of the February 14, 2008 Appeal Brief.

4) On June 6, 2008 the Examiner re-opened prosecution with a new non-final rejection, stating that the affidavit submitted on July 5, 2007 was, in fact, sufficient to overcome the rejection. See page 6 of the June 6, 2008 Office Action.

- 5) The Examiner entered a new rejection of claims 1-3, 5-21, 23-26, 33-34, 35-39, 41 and 48 based on U.S. Patent No. 6,899,907 to Monsalve-Gonzalez et al.
- 6) U.S. Patent No. 6,899,907 to Monsalve-Gonzalez et al. is the parent of International Publication No. WO 02/21936 to Monsalve-Gonzalez et al.
- 7) The Applicant filed a response on September 8, 2008 basically stating that, as U.S. Patent No. 6,899,907 has the exact disclosure of WO 02/21936, the corresponding '907 patent was also removed as effective prior art by the submitted affidavit.
- 8) As the prior affidavit would not be held to be effective, on October 30, 2008 the Applicant filed another affidavit under 37 C.F.R. § 1.132 to overcome the June 5, 2008 § 102(e) rejection of claims 1-3, 5-21, 23-26, 33-34, 35-39, 41 and 48 based on U.S. Patent No. 6,899,907 to Monsalve-Gonzalez et al.
- 9) In the Final Office Action dated November 24, 2008, the Examiner stated that the October 30, 2008 affidavit was not sufficient to overcome the June 5, 2008 rejection. See page 5 of the November 24, 2008 Office Action.
- 10) **Based on telephone conversations with SPE Milton Cano on February 23 and April 22, 2009, as well as a telephone conversation initiated by Examiner Tran on April 24, 2009, the USPTO has reversed their position on the affidavit such that these rejections are to be withdrawn, making the affidavit arguments below moot and at least claims 10-15 allowable.** However, due to timing issues, this new position could not be made part of the written record by the Examiner prior to the filing of this appeal brief such that, to preserve the right to appeal this matter, the acceptance of the affidavit will be addressed herein.

VIII. ARGUMENTS

A. Whether claims 1-3, 5-9 and 16-48 are properly rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,844,924 to Stanley in view of U.S. Patent No. 4,372,812 to Phillips et al.

1) Claims 1-2, 6-9, 16-18, 20-22, 24-32 and 47

In rejected claims 1-2, 6-9, 16-18, 20-22, 24-32 and 47 under 35 U.S.C. § 103(a) as being unpatentable over Stanley in view of Phillips et al., the Examiner has improperly combined references and failed to provide a combination of references that teach each and every limitation in the claims.

In order to establish a prima facie case of obviousness, each and every limitation of the claims must be met. See M.P.E.P. § 2143 (*citing In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)). There must be an apparent reason for one of ordinary skill in the art to combine known elements in the fashion claimed by the patent at issue. This analysis should be made explicit. See *KSR International Co. v. Teleflex Inc.*, 127 U.S.1727, 1732 (2007), citing *In re Kahn*, 441 F. 3d 977, 988 (CA Fed. 2006). As stated by the Court of Appeals for the Federal Circuit, "[i]t is necessary to consider 'the reality of the circumstances, in other words, common sense--in deciding in which fields a person of ordinary skill would reasonably be expected to look for a solution to the problem facing the inventor.'" *In re Oetiker*, 977 F.2d 1443, 1447 (Fed. Cir. 1992), (quoting *In re Wood*, 599 F.2d 1032, 1036 (C.C.P.A. 1979)). Further, if a reference disclosure has a different purpose from the claimed invention, the inventor would accordingly have had less motivation or occasion to consider it then they would if the reference relates to the same problem. *Id. citing In re Clay*, 966 F.2d 656, 659-60 (Fed. Cir. 1992).

The present invention is directed to bran having a reduced ferulic acid concentration and an elevated vanillin concentration, as well as a specific method of producing the same utilizing a mild ozone oxidation treatment. In contrast, Stanley is

concerned with a method of decreasing the color of dietary fiber material by reacting the material with an esterifying agent and then bleaching the fiber material. The Applicant is well aware of prior bran bleaching techniques. For example, in the background section of the application, the inventor noted that U.S. Patent Application Serial No. 09/663,914 set forth a method for bleaching with hydrogen peroxide. However, the present invention is not directed to optimizing the bleaching of bran. Importantly, the Applicant has discovered that substantial improvements in flavor of bran can be obtained by treatment to reduce a particular flavor constituent, ferulic acid, that is present at concentrations ranging only from about 20-50 parts per million (ppm) and, at the same time, performing this treatment in a manner which assures an increase in vanillin content. See page 3, lines 1-4 of the application.

Although Stanley notes that oxidative bleaching agents include peroxides, chlorites peracids and ozone, the only examples provided in Stanley require bleaching bran to extreme degrees with peracetic acid or hydrogen peroxide for **no less than 120 minutes** at one time. Specifically, see columns 4-7 of Stanley. It is important to note that driving the oxidation process of the present invention too far would result in destruction of desirable vanillin. See, for example, page 15 of the application. As set forth on page 15 of the application, the duration of the ozone treatment step of the present invention is short and ranges from under a minute to up to 10 minutes. The oxidation of bran with peracetic acid or hydrogen peroxide for 120 minutes is simply not a mild oxygenation treatment and could not achieve the present invention. The Stanley process thus teaches away from the present invention, which is concerned with a mild oxygenation treatment of bran that drives the conversion of ferulic acid to vanillin such that the vanillin content of the bran is increased.

Regardless, as admitted by the Examiner on page 2 of the Office Action, Stanley does not disclose the amount of ozone. Furthermore, the Applicant notes that Stanley does not teach the reduced ferulic acid finished concentration or an elevated finished concentration of vanillin as is required in claim 1.

The Examiner then turns to Phillips et al., which is directed to a process for **chlorine-free bleaching of lignocellulosic pulp**. Phillips et al. is concerned with an alternative to chlorine bleaching of paper pulp to overcome the problems of corroded paper-making equipment and pollution, and allow recycling of bleaching fluid. Phillips et al. is not at all concerned with treating grain. Correspondingly, Phillips et al. does not teach or suggest increasing vanillin while reducing ferulic acid in grains. The invention of Phillips et al. derives its novelty from the sequence of specific bleaching stages, which include at least a peroxide bleaching stage and an ozone bleaching stage. See column 4, lines 29-63 of Phillips et al. The peroxide bleaching stage is internal or upstream of the ozone stage. See column 5, lines 3-4 of Phillips et al.

There is simply no apparent reason for one of ordinary skill in the art to replace the peracetic acid or hydrogen peroxide of Stanley with the concentration of ozone from one step in the pulp-bleaching process of Phillips et al. while forgoing the required hydrogen peroxide bleaching step in Phillips et al. Furthermore, Phillips et al. is in a completely different field than both Stanley and the present invention, and there is simply no motivation, suggestion or teaching to combine references from entirely different fields to solve a problem that neither one of them recognizes or addresses, i.e., the reduction of ferulic acid concentrations and increase of vanillin concentrations in bran. In other words, one of ordinary skill in the food art would not look to the paper bleaching arrangement of Phillips et al. But even if Phillips et al. is employed, it should be used for what it teaches, i.e., applying a sequence of specific bleaching stages. Regardless, the Examiner states that, "In absence of showing of criticality or unexpected result, it would have been obvious to one skilled in the art to determine the amount of ozone to be used following the teaching of Phillips et al. which shows [an] amount in the range which cause[s] bleaching to occur." See page 3 of the Office Action. The Applicant notes that the critical nature of a difference or of a limitation need not necessarily be pointed out in the specification, and it need not be expressly stated to be critical. See *Jennings v. Brenner*, 255 F.Supp. 410 (DCDC 1966). Still, it is clear from the present application that the amount of oxidation is critical to the present invention. As set forth on pages 14 and 15 of the present application, if excessive ozone treatment occurs, the oxygenation

process will be driven so far that desirable vanillin is destroyed, resulting in bran actually having lower levels of vanillin.

Even if Stanley and Phillips et al. could be properly combined and only the ozone stage of the Phillips et al. arrangement were used in Stanley, the combination would still not teach or suggest utilizing a mild ozone oxidation treatment to reduce ferulic acid and increase vanillin in bran, let alone the specifically claimed treatment with 0.1 to 1 parts ozone per 100 parts bran and/or a finished ferulic acid concentration of less than 30 ppm as set forth in claim 1. In fact, both Stanley and Phillips et al. teach the use of multiple bleaches, thus teaching away from the present invention. Stanley teaches that peracetic acid and/or hydrogen peroxide are preferred bleaches, while Phillips et al. only discusses the use of ozone bleaching in conjunction with hydrogen peroxide bleaching. In other words, one of ordinary skill in the art would **not** find it apparent to apply only the ozone portion of a three-part pulp bleaching process (Phillips et al.) to bran based on a reference (Stanley) teaching highly oxidative bleaching using peracetic acid or hydrogen peroxide.

The desirability of a mild ozone oxidation treatment to increase the vanillin level and decrease ferulic acid in bran is clearly not addressed in any of the prior art cited by the Examiner. In fact, neither Stanley nor Phillips et al. have anything to do with reducing ferulic acid or increasing vanillin. Instead, the Examiner simply states "reducing ferulic acid and increasing vanillin are an obvious result of the reaction of bran with ozone" and "such properties will also be found in the Stanley product." See page 3 of the Office Action. This is simply not the case. **Simply stated, the combination does not employ the same mild ozone oxidation treatment, makes no mention of .1 to 1 parts ozone per 100 parts bran, makes no mention of reducing ferulic acid (let alone to less than 30 ppm) and has no disclosure on increasing the concentration of vanillin.** The present invention offers a milder oxygenation treatment of bran than the hydrogen peroxide bleaching method of the prior art, resulting in elevated vanillin levels. See pages 2-3 of the application. The Applicant clearly sets forth the importance of the ozone range claimed in the subject application. More specifically, too much oxygenation leads to the destruction of desirable vanillin. See page 15, lines 1-6 of the application.

The Examiner's assertion that reduced ferulic acid and increased vanillin would be found in the Stanley product is simply not supported by the evidence.

2) Claim 3

The Examiner has failed to provide a combination of references that teach or suggest a method for treating grain by reacting grain with 0.1 to 1 parts ozone per 100 parts bran to produce bran having a reduced ferulic acid concentration less than 30 ppm and an increased vanillin concentration, let alone a method wherein bran has a finished ferulic concentration of less than 50% of the native concentration of the bran, as required by claim 3. In fact, neither Stanley nor Phillips et al. mention ferulic acid or vanillin at all. Therefore, a prima facie case of obvious has not been proven by the Examiner.

3) Claim 5

The Examiner has failed to provide a combination of references that teach or suggest a method for treating grain by reacting grain with 0.1 to 1 parts ozone per 100 parts bran to produce bran having a reduced ferulic acid concentration less than 30 ppm and an increased vanillin concentration, let alone a method wherein bran has a finished vanillin concentration of at least twice the native concentration of vanillin, as required by claim 4. In fact, neither Stanley nor Phillips et al. mention ferulic acid or vanillin at all. Therefore, a prima facie case of obvious has not been proven by the Examiner.

4) Claims 19 and 23

The Examiner has failed to provide a combination of references that teach or suggest a method for treating grain by reacting grain with ozone to produce bran having a reduced ferulic acid concentration less than 30 ppm and an increased vanillin concentration, let alone a method wherein 100 parts acidified bran is treated with about 0.3 to 0.7 parts ozone. Instead, the Examiner only points to Phillips et al., which is directed to a non-analogous paper pulp bleaching process wherein an ozone range of 0.2

to 1% is utilized in conjunction with at least a peroxide bleaching step to treat lignocellulosic pulp. See column 4, lines 29-62 of Phillips et al. It is respectfully asserted that no prima facie case of obviousness has been proven.

5) Claims 33-36, 39, 40 and 45

The Examiner has failed to provide any reference or combination of references which teach a product of the present invention, or which renders the product of the present invention obvious. Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. See M.P.E.P. § 2113, *citing In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). The Examiner has failed to provide a single reference having anything to do with ferulic acid or vanillin. Instead, the Examiner simply states that "The properties of reducing ferulic acid and increasing vanillin are an obvious result of the reaction of bran with ozone." See page 3 of the Office Action. Absent impermissible hindsight, there is simply no support for the Examiner's assertion. Instead, the assertion is just an unsubstantiated conclusion. Both Stanley and Phillips et al. teach the use of multiple strong bleaches, clearly teaching away from the present invention. Stanley teaches that peracetic acid and/or hydrogen peroxide are preferred bleaches, while Phillips et al. only discusses the use of ozone for bleaching in conjunction with hydrogen peroxide bleaching. The present invention offers a specifically defined, mild oxygenation treatment of bran, resulting in elevated vanillin levels and low ferulic acid levels. A product created by this method has a different chemical composition than prior art bran and improved flavor.

6) Claims 37 and 38

As with product claims 33-36, 39, 40 and 45, the Examiner has failed to provide any reference or combination of references which teach a product of the present invention, or which renders the product of the present invention obvious. More specifically, the Examiner has failed to provide any references which teach or suggest a

bran product including reduced ferulic acid levels and elevated vanillin levels, as is required by claims 37 and 38. Therefore, a prima facie case of obviousness has not been proven by the Examiner.

7) Claims 41-44, 46 and 48

As with product claims 33-36, 39, 40 and 45, the Examiner has failed to provide any reference or combination of references which teach a product of the present invention, or which renders the product of the present invention obvious. More specifically, the Examiner has failed to provide any references which teach or suggest a bran product including reduced ferulic acid levels and elevated vanillin levels, let alone a grain product having a ferulic acid concentration of less than 30 ppm, as is required by claims 41-44, 46 and 48. Therefore, a prima facie case of obviousness has not been proven by the Examiner.

B. Whether claims 1-3, 5-21, 23-26, 33-39, 41 and 48 are properly rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,899,907 to Gonzalez et al.

As indicated above, both SPE Cano and Examiner Tran have confirmed that the rejection based on Gonzalez et al. will be removed, thereby resulting in the allowance of at least claims 10-15. However, since written confirmation has not yet been entered into the file, the Applicant has gone through the exercise of arguing this rejection for this appeal. Upon withdrawal, these arguments will be moot.

1) Claims 1-2, 6-9, 16-21 and 23-26

In rejected claims 1-2, 6-9, 16-21 and 23-26 under 35 U.S.C. § 102(e) as being anticipated by Gonzalez et al., the Examiner has: a) improperly rejected the § 1.132 affidavit dated October 30, 2008 which sets forth that relevant portion of the disclosure in Gonzalez et al. is not by another; and b) failed to provide a reference that teaches each and every limitation in the claims.

- a. The improper rejection of the § 1.132 Affidavit filed October 30, 2008.

On page 5 of the Office Action, the Examiner stated that the § 1.132 Affidavit filed October 30, 2008 was insufficient to overcome the § 102(e) rejection. The Applicant respectfully asserts that the Examiner's reasons for rejecting the affidavit are in error.

As set forth in the Statement of Facts above, claims 1-3, 5-21, 23-26, 33-39, 41 and 48 were originally rejected under 35 U.S.C. § 102(e) as anticipated by International Publication No. WO 02/21936 to Monsalve-Gonzalez. See the February 5, 2007 Office Action. On July 5, 2007, the Applicants filed a 37 C.F.R. § 1.132 affidavit to remove WO 02/21936 as a prior art reference. The Examiner originally argued that the July 5, 2007 affidavit was not sufficient. However, after an Appeal Brief was filed on February 14, 2008, the Examiner reopened prosecution on June 6, 2008, rejecting claims 1-3, 5-21, 23-26, 33-39, 41 and 48 under 35 U.S.C. § 102(e) as anticipated by U.S. Patent No. 6,899,907, which is the parent of International Publication No. WO 02/21936. On page 6 of the June 6, 2008 Office Action, the Examiner stated that:

"Upon further consideration, the 132 affidavit submitted by applicant on 7/5/07 is found to be sufficient to overcome the rejection over the WO02/21936A1 because this reference is a publication. However, it is not sufficient to overcome a rejection over US 6899907 patent because the reference is a patent which lists the others as inventors."

In an attempt to further the prosecution, the Applicant submitted another Affidavit on October 30, 2008 which essentially mirrored the July 5, 2007 Affidavit but specifically identified in U.S. Patent No. 6,899,907. In the Final Office Action dated November 24, 2008, the Examiner stated that the affidavit cannot overcome the rejection "because the patent lists other people as inventors." The Examiner went on to state that "The current affidavit does not explain why the other inventors listed on the patent are not inventors. If they are not inventor, why would they be listed as inventors on the

patent? The affidavit contradicts the US patent without any explanation.” See pages 5 and 6 of the November 24, 2008 Office Action.

The Examiner has failed to point to any Patent Office Rules or laws that support the Examiner's position. It appears that the Examiner is saying that, because some of the information in U.S. Patent No. 6,899,907 was contributed solely by inventors Monsalve-Gonzalez and Prakash, that the Applicant must explain what the remaining inventors of the '907 patent contributed. However, such a statement is not required.

In order to remove a reference as a prior art document, the Patent Office requires a statement that **the subject matter relied on** for the rejection was the Applicant's own invention. As set forth in M.P.E.P. § 716.10:

Under certain circumstances an affidavit or declaration may be submitted which attempts to attribute an activity, a reference **or part of a reference** to the applicant. If successful, the activity or the reference is no longer applicable. When subject matter, disclosed but not claimed in a patent application filed jointly by S and another, is claimed in a later application filed by S, the joint patent or joint patent application publication is a valid reference available as prior art under 35 U.S.C. 102(a), (e), or (f) unless overcome by affidavit or declaration under 37 CFR 1.131 showing prior invention (see MPEP § 715) **or an unequivocal declaration by S under 37 CFR 1.132 that he or she conceived or invented the subject matter disclosed in the patent or published application. Disclaimer by the other patentee or other applicant of the published application should not be required but, if submitted, may be accepted by the examiner (emphasis added).**

See also M.P.E.P. § 2136.05 stating that:

When a **prior U.S. patent, ** U.S. patent application publication>, < or international application publication*** is not a statutory bar, a 35 U.S.C. § 102(e) rejection can be overcome by antedating the filing date (see MPEP § 2136.03 regarding critical reference date of 35 U.S.C. § 102(e) prior art) of the reference by submitting an affidavit or declaration under 37 CFR § 1.131 or by submitting an affidavit or declaration under 37 CFR § 1.132 establishing that **the relevant disclosure** is applicant's own work. *In re Mathews*, 408 F.2d 1393, 161 USPQ 276 (CCPA 1969). The filing date can also be antedated by applicant's earlier foreign priority application or provisional application if 35 U.S.C. § 119 is

met and the foreign application or provisional application "supports" (conforms to 35 U.S.C. § 112, first paragraph, requirements) all the claims of the U.S. application. *In re Gosteli*, 872 F.2d 1008, 10 USPQ2d 1614 (Fed. Cir. 1989) (emphasis added).

These provisions of the M.P.E.P. are specifically established for the exact situation of the present case. That is, when a prior publication or patent "filed jointly by S and another" (S representing the current application inventorship) is not a statutory bar and a portion of the prior disclosure is being used to reject subsequent patent claims by "S", an affidavit by the Applicant(s) can be used to establish that the applicant (S) conceived or invented the relevant portion of the patent or published application disclosure, thereby establishing that the relevant disclosure is the applicant's (S's) own work. The M.P.E.P. clearly discusses overcoming either a prior publication or patent. Therefore, it is unclear why the Examiner is treating the affidavit overcoming the parent application of U.S. Patent No. 6,899,907 different from the affidavit overcoming the child application of WO 02/21936A1.

As for the Examiner's question as to why additional inventors are listed, the Applicant notes that inventorship is based on the *claimed* subject matter, not on all the disclosed subject matter. Therefore, the inventors listed on the '907 patent are inventors of the **claimed** subject matter in the '907 patent. The Examiner is not rejecting claims of the present application based on all the claimed subject matter of the '907 patent, but is instead rejecting claims of the present application based on certain parts of the specification. See, for example, page 5 of the November 24, 2008 rejection in which the Examiner states that:

"The discussion by Gonzalez et al starting on line 53 through column 10 line 5 is in relation to the bran treated with hydrogen peroxide; it is not related to product treated with ozone. Gonzalez et al do disclose embodiment in which the bran is treated with ozone; thus, the properties as claimed are inherent in the Gonzalez et al. product."

If the inventorship was the same, the present situation would not even arise and the Applicant would not be in the position of attempting to convince the Examiner on these points. Finally, the affidavit does not contradict the U.S. patent but rather explains that the different inventorship in the '907 patent is due to the claimed subject matter, but the disclosure in the '907 patent relied upon by the Examiner is attributable to the present inventor. Therefore, it is unclear why the difference in inventorship between the '907 patent and the present Application is cause for rejecting the previous affidavit. The fact that the inventors of the present application invented some of the subject matter of the '907 patent is simply not cause for rejecting the October 30, 2008 affidavit.

Again, the above arguments should be moot upon the Examiner's recent verification that the prior submitted affidavit effectively removes Gonzalez et al. as prior art.

b) The Examiner's failure to address each and every limitation in the claims.

Regardless of whether or not Gonzalez et al. is relevant prior art under § 102(e), the reference does not teach or suggest each and every limitation of the present claims. The test for patentability under 35 U.S.C. § 102 is basically whether a single reference teaches or enables each of the claimed elements of the claimed subject matter (arranged as in the claim) expressly or inherently as interpreted by one of ordinary skill in the art. *W.L. Gore and Associates v. Garlock, Inc.* 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), Cir. denied, 469 US 851 (1984). "A claim is anticipated only if each and every element set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. V. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as is contained in the ...claim." *Richardson v. Suzuki Motor co.*, 868 F.2d. 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

The Examiner has stated that the ferulic acid is reduced and that the "properties of the reduced ferulic acid and increased vanillin are inherent in the product disclosed in the

patent [Gonzalez et al.].” See page 5 of the Office Action. This is simply not the case. Gonzalez et al. teaches **increasing** the availability of ferulic acid and states that vanillic acids **are no longer available** in the bleached bran, which **clearly teaches away** from the present invention. See page 16 of Gonzalez et al. Thus, the limitations that the bran include a reduced ferulic acid concentration and an elevated vanillin concentration are not taught by Gonzalez et al.

2) Claim 3

The Examiner has failed to provide a single reference that teaches a method for treating grain by reacting grain with 0.1 to 1 parts ozone per 100 parts bran to produce bran having a reduced ferulic acid concentration less than 30 ppm and an increased vanillin concentration, let alone a method wherein bran has a finished ferulic acid concentration of less than 50% of the native concentration of the bran, as required by claim 3. In fact, Gonzalez et al. teaches bran having an increased ferulic acid concentration. Regardless, when the October 30, 2008 § 1.132 affidavit is properly considered, Gonzalez et al. is not prior art under § 102(e).

3) Claim 5

The Examiner has failed to provide a single reference that teaches or suggests a method for treating grain by reacting grain with 0.1 to 1 parts ozone per 100 parts bran to produce bran having a reduced ferulic acid concentration less than 30 ppm and an increased vanillin concentration, let alone a method wherein bran has a finished vanillin concentration of at least twice the native concentration of vanillin, as required by claim 5. In fact, Gonzalez et al. teaches bran having no available vanillic acids. Regardless, when the October 30, 2008 § 1.132 affidavit is properly considered, Gonzalez et al. is not prior art under § 102(e).

4) Claims 10-15

In rejected claims 10-15 under 35 U.S.C. § 102(e) as being anticipated by Gonzalez et al., the Examiner has: a) improperly rejected the October 30, 2008 § 1.132 affidavit setting forth that relevant portions of the disclosure in Gonzalez et al. are not by another; and b) failed to provide a reference that teaches each and every limitation in the claims. For the sake of completeness and to preserve rights in the appeal, arguments in connection with the acceptance of the affidavit will be reiterated below. However, as stated above, this should be a moot point.

a. The improper rejection of the § 1.132 Affidavit filed October 30, 2008.

On page 5 of the Office Action, the Examiner asserts that the § 1.132 Affidavit filed October 30, 2008 is insufficient to overcome the § 102(e) rejection. The Applicant respectfully asserts that the Examiner's reasons for rejecting the affidavit are in error.

In the Final Office Action dated November 24, 2008, the Examiner stated that the affidavit cannot overcome the rejection "because the patent lists other people as inventors." The Examiner went on to state that "The current affidavit does not explain why the other inventors listed on the patent are not inventors. If they are not inventor, why would they be listed as inventors on the patent? The affidavit contradicts the US patent without any explanation." See pages 5 and 6 of the November 24, 2008 Office Action. As argued above, the fact that the inventors of the present application invented some of the subject matter of the '907 patent is simply not cause for rejecting the previously filed affidavit. The M.P.E.P clearly allows for the removal of a reference as prior art when the part of the reference relied on by the Examiner was not invented by another. See § 716.10 and § 2136.05. It is therefore respectfully submitted that the rejection of the § 1.132 Affidavit for the reasons given is a clear error.

- b. The Examiner's failure to address each and every limitation in the claims.

Regardless of whether or not Gonzalez et al. is relevant prior art under § 102(e), the reference does not teach or suggest each and every limitation of the present claims. The Examiner has stated that the ferulic acid is reduced and that the "properties of the reduced ferulic acid and increased vanillin are inherent in the product disclosed in the patent [Gonzalez et al.]". See page 5 of the Office Action. This is simply not the case. Gonzalez et al. teaches **increasing** the availability of ferulic acid and states that vanillic acids **are no longer available** in the bleached bran, which clearly teaches away from the present invention. See page 16 of Gonzalez et al. Thus, the limitation that bran includes a reduced ferulic acid concentration and an elevated vanillin concentration is not taught by Gonzalez et al. and claims 10-15 are not anticipated.

- 5) Claims 33-36 and 39

The Examiner has failed to provide a reference teaching a product of the present invention. The test for patentability under 35 U.S.C. § 102 is basically whether a single reference teaches or enables each of the claimed elements of the claimed subject matter (arranged as in the claim) expressly or inherently as interpreted by one of ordinary skill in the art. *W.L. Gore and Associates v. Garlock, Inc.* 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), Cir. denied, 469 US 851 (1984). Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. See M.P.E.P. § 2113, citing *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). A product created by the present method has a different chemical composition than the bran of Gonzalez et al. Specifically, after the bleaching process of Gonzalez et al., **ferulic acid becomes more available** and components such as **vanillic acids are no longer available**. See page 16 of Gonzalez et al. The product of the present invention has a reduced ferulic acid content and an increased vanillin content. Therefore, the teachings in Gonzalez et al. are basically opposite to that of the present invention such that the claims of the present invention are clearly not anticipated by

Gonzalez et al. Regardless, when the October 30, 2008 § 1.132 affidavit is properly considered, Gonzalez et al. is not prior art under § 102(e).

6) Claims 37 and 38

As with product claims 33-46 and 48, the Examiner has failed to provide a reference teaching a product of the present invention. The test for patentability under 35 U.S.C. § 102 is basically whether a single reference teaches or enables each of the claimed elements of the claimed subject matter (arranged as in the claim) expressly or inherently as interpreted by one of ordinary skill in the art. *W.L. Gore and Associates v. Garlock, Inc.* 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), Cir. denied, 469 US 851 (1984). Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. See M.P.E.P. § 2113, citing *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). A product created by the present method has a different chemical composition than the bran of Gonzalez et al. Specifically, after the bleaching process of Gonzalez et al., ferulic acid becomes **more available** and components such as **vanillic acids are no longer available**. See page 16 of Gonzalez et al. The product of the present invention has a reduced ferulic acid content and an increased vanillin content. Therefore, the claims of the present invention are clearly not anticipated by Gonzalez et al. Regardless, when the October 30, 2008 § 1.132 affidavit is accepted, Gonzalez is not prior art under § 102(e).

7) Claims 41 and 48

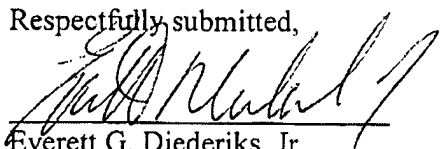
The Examiner has failed to provide a reference teaching a product of the present invention. The test for patentability under 35 U.S.C. § 102 is basically whether a single reference teaches or enables each of the claimed elements of the claimed subject matter (arranged as in the claim) expressly or inherently as interpreted by one of ordinary skill in the art. *W.L. Gore and Associates v. Garlock, Inc.* 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), Cir. denied, 469 US 851 (1984). Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the

product itself. See M.P.E.P. § 2113, *citing In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). A product created by the present method has a different chemical composition than the bran of Gonzalez et al. Specifically, after the bleaching process of Gonzalez et al., **ferulic acid becomes more available** and components such as **vanillic acids are no longer available**. See page 16 of Gonzalez et al. The product of the present invention has a reduced ferulic acid content and an increased vanillin content. Therefore, the claims of the present invention are clearly not anticipated by Gonzalez et al. Regardless, when the acceptance of the October 30, 2008 § 1.132 affidavit is placed in the written record, all of the rejections based on Gonzalez et al. will no longer exist.

C. Conclusions

The Examiner has failed to provide a proper combination of references which teaches or suggests each and every limitation of the pending claims. Neither Stanley nor Phillips et al. mention ferulic acid or vanillin at all, and certainly do not attempt to solve the same problem as the present invention. Moreover, Phillips et al. is directed to bleaching paper pulp, and it would not be reasonable to assume that one skilled in the art would turn to Phillips et al. when attempting to improve the flavor of bran products. With respect to Gonzalez et al., this patent does not constitute prior art. For at least these reasons, the Appellant respectfully submits that the present invention is patentably defined over the prior art of record such that the Examiner's rejections should be reverse and the application passed to issue.

Respectfully submitted,


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Attorney for Applicants
Reg. No. 33,323

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IX. CLAIMS APPENDIX

1. A method for treating a grain based product bran, comprising:
Reacting bran having a native ferulic acid concentration with 0.1 to 1 parts ozone per 100 parts bran to produce treated bran having a reduced ferulic acid finished concentration of less than 30 ppm, wherein the bran has a native concentration of vanillin and wherein the treated bran has an elevated finished concentration of vanillin.
2. The method of claim 1, additionally comprising the step of:
Acidifying bran with an edible acidulant in amounts sufficient to reduce the pH of the bran to about 4-6 to form acidified bran prior to treating with ozone.
3. The method of claim 2 wherein the finished ferulic concentration of the treated bran is less than 50% of the native concentration of the bran.
5. The method of claim 1 wherein the finished concentration of vanillin is at least twice the native concentration of vanillin.
6. The method of claim 2 wherein the bran is derived from a member selected from the group consisting of barley, corn (maize), oats, rice, rye, soybeans, wheat, and mixtures thereof.
7. The method of claim 6 wherein the bran is wheat bran.
8. The method of claim 7 wherein the bran is red wheat bran.
9. The method of claim 1 wherein the bran is in dry powder form having an average particle size of about 100 microns.

10. A method for treating a grain based product bran, comprising:
 - Reacting bran having a native ferulic acid concentration and a native concentration of vanillin with ozone to produce treated bran having a reduced ferulic acid finished concentration;
 - Acidifying the bran with an edible acidulant in amounts sufficient to reduce the pH of the bran to about 4-6 to form acidified bran prior to treating with ozone;
 - Prior to acidifying, treating the bran with a chelating agent to remove transition metals to produce treated bran; and
 - Blanching the treated bran to inactivate catalase and peroxidase enzymatic systems to produce blanched bran having the reduced ferulic acid finished concentration and an elevated finished concentration of vanillin.
11. The method of claim 10 wherein the bran is treated with the chelating agent for about one (1) to fifteen (15) minutes at a temperature of about 70 to 90°C.
12. The method of claim 10 wherein the chelating agent is selected from the group consisting of orthophosphate, metaphosphate, pyrophosphate, polyphosphate, calcium ethylene diamine tetra acetic acid (EDTA) and sodium EDTA.
13. The method of claim 12 wherein the chelating agent is calcium EDTA or sodium EDTA in a concentration of between about 0.02 and 0.1%.
14. The method of claim 10 wherein the blanching step is performed at a temperature of between about 75 to 85°C for about three (3) to ten (10) minutes, further wherein residual enzyme activity is below about 10 CIU/g bran following the blanching step.
15. The method of claim 10 further comprising:
 - Washing and rinsing the bran to produce wet bran;
 - Filtering the wet bran to produce filtered wet bran; and

Drying the treated filtered wet bran to produce dried treated bran having a moisture content ranging from about 6% to 15%.

16. The method of claim 2 wherein the acidulant comprises a mineral acid.
17. The method of claim 2 wherein the acidulant comprises an edible organic acid.
18. The method of claim 2 wherein the bran is in powder form and has a moisture content ranging from about 6% to about 15%.
19. The method of claim 2 wherein the treatment step comprises contacting about 100 parts acidified bran with about 0.3 to 0.7 parts ozone.
20. The method of claim 1 wherein the bran is pure bran.
21. The method of claim 2 wherein the bran is admixed with flour.
22. The method of claim 17 wherein the edible organic acid is dissolved in water.
23. The method of claim 19 wherein the bran is reacted with ozone at atmospheric pressure.
24. The method of claim 20 additionally comprising the step of:
Blending the treated bran with flour to form a whole wheat flour comprising treated bran.
25. The method of claim 24 additionally comprising the step of:
Forming a dry mix for baked goods by admixing the whole wheat flour comprising treated bran with dry mix ingredients.

26. The method of claim 24 wherein all the flour in the dry mix is supplied by the whole wheat flour comprising the treated bran.
27. The method of claim 24 additionally comprising the steps of:
Combining the whole wheat comprising treated bran with cereal ingredients to form a cereal blend;
Cooking the cereal blend to form a cooked cereal dough;
Forming the cooked cereal dough into dried finished cereal pieces.
28. The method of claim 27 wherein the finished cereal pieces are puffed.
29. The method of claim 28 wherein the puffed cereal pieces are deep fat fried.
30. The method of claim 27 wherein the bran is wheat bran.
31. The method of claim 30 wherein at least a portion of the wheat bran is red wheat bran.
32. The method of claim 30 wherein the dried finished cereal pieces are flakes.
33. The product prepared by the method of claim 1.
34. The product prepared by the method of claim 2.
35. The product prepared by the method of claim 1.
36. The product prepared by the method of claim 1 having an antioxidant activity about 15 to 35% higher than native bran.
37. The product prepared by the method of claim 10.

38. The product prepared according to the method of claim 11.
39. The product prepared according to the method of claim 18.
40. The product prepared according to the method of claim 21 wherein about five (5)% treated bran, by weight, is added to the whole wheat flour.
41. A grain product comprising cereal bran having a ferulic acid concentration of less than 30 ppm and an elevated concentration of vanillin.
42. The grain product of claim 41 having a pH ranging from about 4-6.
43. The grain product of claim 42 having a moisture content ranging from about 10% to 15% prepared from soft white wheat or hard white wheat.
44. The grain product of claim 43 wherein the grain product is prepared from light bran.
45. The product of claim 40 having a pH of about 6.3 to 6.7.
46. The grain product of claim 41 in the form of a finished baked good.
47. The method of claim 31 wherein the whole wheat flour is admixed with sugar, salt, and leavening.
48. The grain product of claim 41 wherein the grain product is added to foods selected from the group consisting of dry mixes, ready-to-eat cereals and soy.

X. EVIDENCE APPENDIX

- A. Affidavit Submitted Under 37 C.F.R. § 1.132 - Filed July 5, 2007
- B. Affidavit Submitted Under 37 C.F.R. § 1.132 – Filed October 30, 2008

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No : 10/005,052
Applicant : Monsalve-Gonzales et al.
Filed : December 4, 2001
Title : Bran and Bran Containing Products of Improved
Flavor and Methods of Preparation

TC/A.U. : 1761
Examiner : L. Tran

Docket No. : 5553

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

STATEMENT FROM INVENTOR

Sir:

My name is Adelmo Monsalve-Gonzales, and this document is being provided in response to the rejection of claims 1-3, 6-21, 23, 24, 25, 26, 33, 34 and 36-39 of the above-identified U.S. patent application under 35 U.S.C. § 102(e) as being anticipated by WO 02/021936 in an Office Action dated June 1, 2006. To this end, I declare that only I and Aruna Prakash Kasturi jointly invented the subject matter of the WO 02/021936 document that is being relied upon by the Examiner as the basis for this rejection.

I hereby declare that statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 101 of title 18 of

Application Serial No. 10/005,052
Statement from Inventor
Page 2 of 2

the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Adelmo', enclosed within a horizontal oval shape.

Adelmo Monsalve-Gonzalez, Ph.D

Date:

11/7/2006

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No : 10/005,052
Applicant : Adelmo Monsalve-Gonzalez et al.
Filed : December 4, 2001
Title : Bran and Bran Containing Products of Improved
Flavor and Methods of Preparation

TC/A.U. : 1761
Examiner : L. Tran

Docket No. : 5553US

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

STATEMENT FROM INVENTOR

Sir:

My name is Adelmo Monsalve-Gonzalez, and this document is being provided in response to the rejection of claims 1-3, 5-21, 23-26, 33-34, 35-39, 41 and 48 of the above-identified U.S. patent application under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,899,907 in an Office Action dated June 6, 2008. To this end, I declare that only I and Aruna Prakash jointly invented the subject matter of the '907 document and, correspondingly, U.S. Patent Application Serial No. 09/663,914 from which the patent issued that is being relied upon by the Examiner as the basis for this rejection.

I hereby declare that statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 101 of title 18 of

Application Serial No. 10/005,052
Statement from Inventor
Page 2 of 2

the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Respectfully submitted,

A handwritten signature in dark ink, appearing to read 'delmo', with a horizontal line extending from the end of the signature.

Adelmo Monsalve-Gonzalez

Date: 10/29/2008

XI. RELATED PROCEEDING APPENDIX

Not Applicable